MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE TRIAXIAL, 75 OHMS, M17/179-00001

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the cable described herein shall consist of this specification and the latest issue of MIL-C-17.

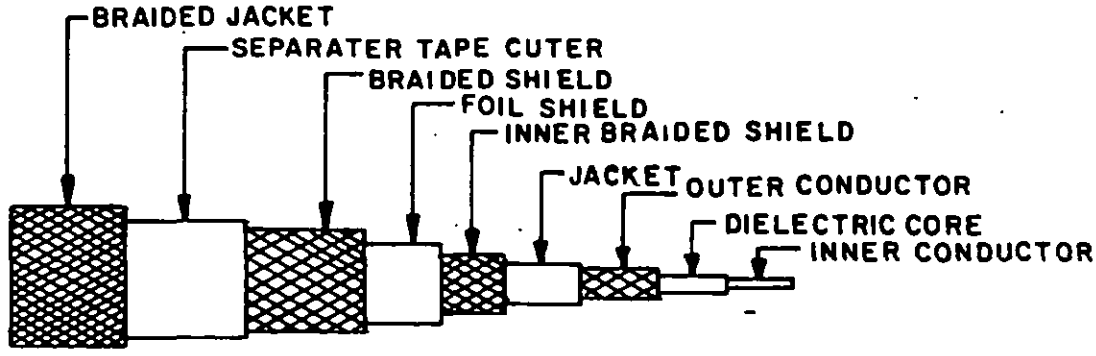

FIGURE 1. Configuration.

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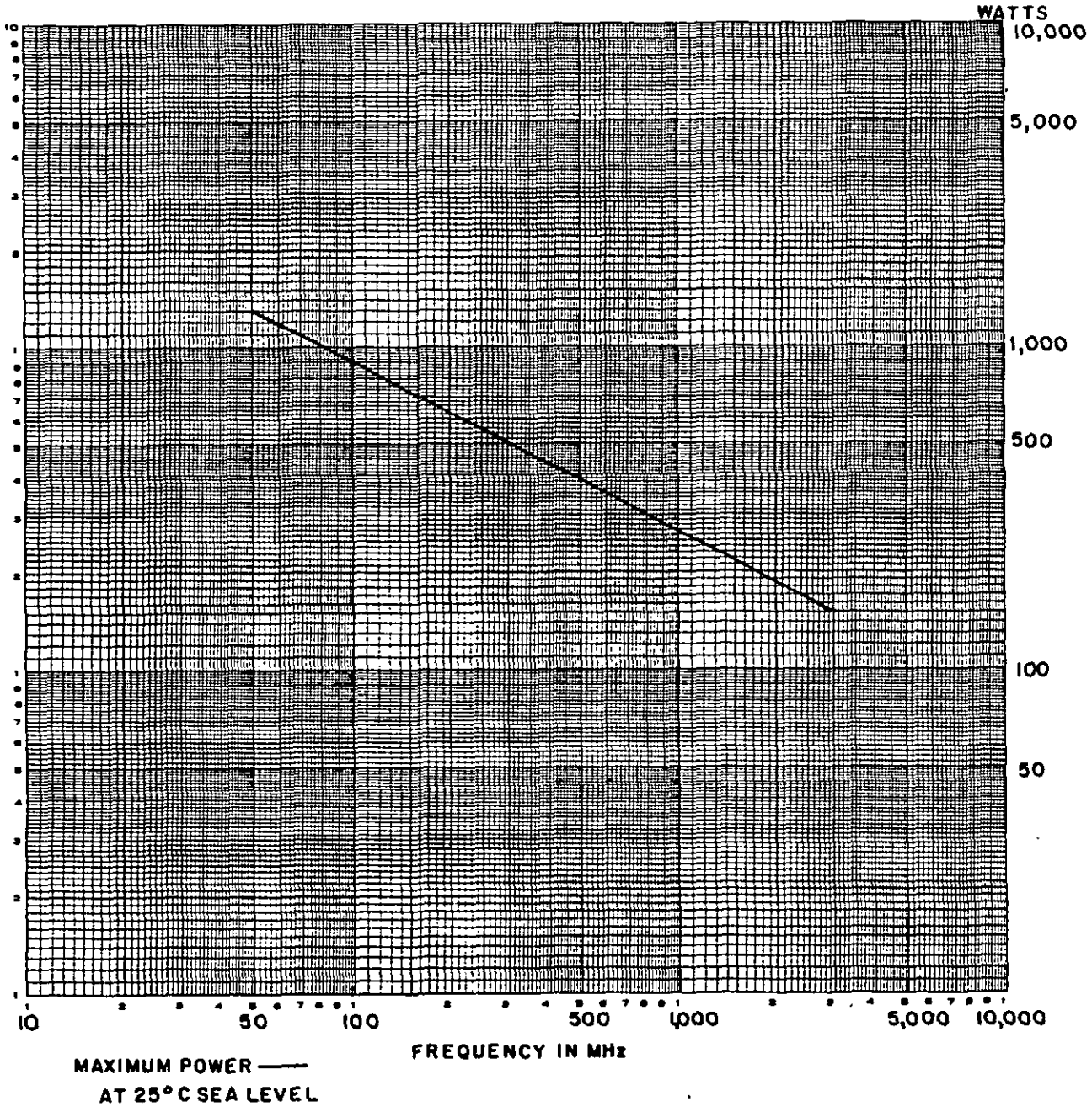

FIGURE 2. Power rating.

ENGINEERING INFORMATION:

Continuous working voltage: 900 V rms, maximum.

Operating frequency: 3 GHz, maximum.

Velocity of propagation: 69.5 percent, nominal.

Power rating: See figure 2.

Operating temperature range: -55°C to +150°C

Inner conductor properties:

DC resistance (maximum at +20°C): 24.45 ohms per 100 feet.

Elongation: 10 percent, minimum.

Tensile strength: 50 $klb_f/inch^2$ minimum.

Notes: This cable is useful on shield critical medium high temperature applications (see connector series "TRB" and "TRT" in accordance with MIL-C-49142).

REQUIREMENTS:

Dimensions, configuration, and descriptions: See figure 1 and table I.

TABLE I. Description.

Components	Construction details
Inner conductor	Seven strands of silver-coated, annealed-copper-covered, steel wire, each strand .004 inch diameter. Overall diameter: 0.012 inch ±0.001.
Dielectric core	Type F-1: Solid, extruded PTFE. Diameter: 0.063 inch ±0.003.
Outer conductor	Single braid of AWG #38, silver-coated copper wire Diameter: 0.084 inch maximum. Coverage: 92.3 percent nominal. Carriers: 16 Ends: 5 Picks/inch: 12.0 ±10 percent
Jacket	Type IX: FEP Diameter: 0.100 inch ±0.005.
Inner braid shield	AWG #36 nickel coated copper wire conforming to ASTM B-355. Coverage: 91.3 percent nominal Braid angle: 34.8° nominal Carriers: 16 Ends: 5 Picks/inch: 16.1 ±5 percent Outer diameter: .130 maximum
Foil shield	Copper-polyester-copper laminate, 0.0024 inch thick O.D., 0.0007 inch copper each side of 0.001 inch polyester film conforming to MIL-I-631, type G, form F, subform T_F, class 1. Overlap shall be 20 to 40 percent of tape width. Elongation 3 percent minimum. Outer diameter: .145 maximum.

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TABLE I. Description - Continued.

Components	Construction details
Outer braid shield	AWG #36 nickel coated copper wire conforming to ASTM B-355. Coverage: 91.9 percent nominal Braid angle: 25.9° nominal Carriers: 16 Ends: 7 Picks/inch: 8.9 ±5 percent Outer diameter: .170 maximum
Separater tape	0.001 inch polyester film conforming to MIL-I-631, type G, form F, subform T_f, class I. Tape shall be spirally applied with not less than one third nor more than two thirds lap. Outer diameter: .175 maximum
Braided jacket	Single braid of polyester fiber braid with high temperature finishers, conforming to MIL-C-27500 Diameter: .195 inch maximum.

Environmental and mechanical:

Visual and mechanical examination:

Out-of-roundness: Not applicable.

Eccentricity: 10 percent maximum.

Adhesion of conductors:

Inner conductor to core: 1.5 pounds, minimum; 4 pounds, maximum.

Aging stability: Not applicable.

Stress crack resistance: +230°C ±5°C. 1/

Outer conductor integrity: Not applicable.

Cold bend: -55°C ±2°C.

Dimensional stability: +200°C ±5°C. 1/

Inner conductor from core: 0.187 inch, maximum.

Inner conductor from any jacket: 0.250 inch, maximum.

Contamination: Not applicable.

Bendability: Not applicable.

Flammability: Applicable.

Weight: 36.5 pounds per 1,000 feet, maximum.

1/ Requirements are prior to adding shields over jacket.

Electrical:

Continuity: Applicable.

Spark test: 2,000 V rms +10, -0 percent.

Voltage withstanding: 2,000 V rms +10, -0 percent. 2/

Insulation resistance: Not applicable.

Corona extinction voltage: 1,200 V rms minimum.

Characteristic impedance: 75 ohms ±3.

Attenuation: 21.0 dB per 100 feet maximum at 0.4 GHz.

Structural return loss: Not applicable.

Capacitance: 23.0 pF per foot, maximum.

Capacitance stability: Not applicable.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Phase stability: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

Shielding effectiveness: To be determined.

Part number: M17/179-00001.

2/ 3,000 V rms +10, -0 percent applied between the inner and outer conductor with the outer conductor grounded; 200 V dc minimum applied between the outer conductor and the outer shield with the outer shield grounded.

Custodians:
Army - CR
Navy - EC
Air Force - 85

Review activities:
Army - AR, MI
Navy - SH
Air Force - 11, 17, 99
DLA - ES, IS
NASA - NA

User activities:
Army - AT, ME
Navy - AS, MC, OS
Air Force - 19

Preparing activity:
Army - CR

Agent:
DLA - ES

(Project 6145-1091)